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April 1, 2014

Ms. Carrie Greeley & Ms. Elois Johnson
Department of Environmental Quality
1520 E. Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

Re: Comments on Numeric Nutrient Standards and Variances

Dear Ms. Greeley and Ms. Johnson,

We submit the following combined comments to DEQ and the BER on the proposed rule package for numeric nutrient standards and variances on behalf of the Clark Fork Coalition. The Clark Fork Coalition (CFC), founded in 1985, is a non-profit organization dedicated to protecting and restoring the 14 million-acre Clark Fork River watershed. We are comprised of 2,700 supporters who are united behind the belief that clean water is integral to the health of our communities.

The CFC has long worked toward reduction of nutrient concentrations in waters of the Clark Fork watershed. We were one of the founding members of the Tri-State Water Quality Council and we were active in development of the Voluntary Nutrient Reduction Program on the Clark Fork that led to the first numeric nutrient standards in Montana. More recently, we've participated in DEQ's Nutrient Working Group. Therefore we are pleased to now see promulgation of a statewide rule package for numeric nutrient standards.

We commend DEQ for your substantial efforts and your patience in developing a rule package that is practical, implementable, and ultimately, we believe, protective of water quality. We appreciate that this is no easy task given the substantial range and variation in natural nitrogen and phosphorus concentrations in Montana, and given the financial challenges of upgrading old and failing wastewater treatment systems in many Montana communities.

Scientific Basis

We are fully supportive of the scientific approach and rationale upon which the standards are based, and we particularly support the emphasis on ecoregion-based dose-response studies in combination with data from reference streams. We appreciate that DEQ submitted their *Scientific and Technical Basis of the Numeric Nutrient Criteria for Montana's Wadeable Streams and Rivers* for anonymous peer review, and that they responded to that review. We hope that DEQ will continue to refine and update the standards over time as more research is done and more information becomes available.

The process for development of site-specific criteria provides flexibility that should be used to tighten the standards if it becomes apparent that nuisance algae are becoming worse – or not improving – over time. Along with changing the numeric criteria themselves, DEQ should also consider flexibility to change the period of application of the standards beyond the 10 days before or after target dates listed in Table 12A-1 in Department Circular DEQ-12A. As one example, in the upper Clark Fork, low snowpack in some years combined with early irrigation withdrawal often results in severely attenuated spring peak flow. In this reach there are many years (2013 was one) when prolific growth of nuisance algae (*Cladophora*) becomes apparent in the mainstem between Flint Creek and Rock Creek by late April or early May, well before the period of application would start on July 1. We recognize the inherent difficulty of using a standard (total N or P) that is highly sediment-correlated, but this is one example of an area that will likely not improve without a longer period of nutrient discharge control.

Variances

With respect to the proposed variance procedure, we recognize that variances are necessary based on SB 95 and SB 367, now codified in 75-5-313 MCA. We have the following comments on Department Circular DEQ-12B, *Nutrient Standards Variances*:

With respect to the general variance and end-of-pipe treatment requirements, we note that there are possible low cost alternatives to treatment lagoons, such as fed-batch reactors, that would provide better treatment than lagoons. While there is obviously a cost associated with this, it should be affordable to at least some communities that currently use lagoons. In the triennial reviews, DEQ should carefully consider currently available low-cost technologies that are more effective than lagoons.

With respect to wastewater facility optimization studies conducted as a requirement of a general variance, we question why the study would be done after the variance is issued, instead of as a prior condition of receiving the variance. We believe that a facility should be required to optimize as described in Section 2.1 before the variance is granted. At the very least, optimization analysis should occur concurrently with the variance application.

One of our overall concerns about the variance process is that DEQ will need to spend large amounts of time on variance requests and triennial variance reviews. The triennial reviews are critical for advancing water quality, and must not simply be perfunctory. How does DEQ plan to accommodate this workload with current resources?

Apart from issuing variances, DEQ could take a more proactive approach toward helping municipalities upgrade their systems by providing timely education and information to help them meet standards. As an example scenario, a financially-strapped small municipality is more likely to hire a sub-par consultant to receive sub-par advice on how to upgrade their system. DEQ could help communities avoid this by at least maintaining a current list (with references) of best available technologies for a range of plant sizes and costs, or otherwise facilitate better communication on best practices for plant optimization and upgrade, or on alternative methods of meeting standards such as land application.

Nonsignificance Criteria

We propose the following change to ARM §17.30.715(1). We strongly urge the deletion of the language “inorganic nitrogen, or inorganic phosphorus” from subsection (c) of the proposed ARM §17.30.715(1). While we do not believe this language would have the legal effect suggested by the Department in the December rule notice – i.e. allowing nondegradation review of new nutrient discharges under the old narrative standard – this phrase adds needless confusion to the rule.

As amended by the rule, ARM §17.30.715(1) would read as follows:

17.30.715 CRITERIA FOR DETERMINING NONSIGNIFICANT CHANGES IN WATER QUALITY

(1) The following criteria will be used to determine whether certain activities or classes of activities will result in nonsignificant changes in existing water quality due to their low potential to affect human health or the environment. These criteria consider the quantity and strength of the pollutant, the length of time the changes will occur, and the character of the pollutant. Except as provided in (2) , changes in existing surface or ground water quality resulting from the activities that meet all the criteria listed below are nonsignificant, and are not required to undergo review under 75-5-303 , MCA:

...

(c) discharges containing toxic parameters, inorganic nitrogen, or inorganic phosphorous, except as specified in (1) (d) and (e) , which will not cause changes that equal or exceed the trigger values in Department Circular DEQ-7. Whenever the change exceeds the trigger value, the change is not significant if the resulting concentration outside of a mixing zone designated by the department does not exceed 15% of the lowest applicable standard;

(d) changes in the concentration of nitrate in ground water which will not cause degradation of surface water if the sum of the predicted concentrations of nitrate at the boundary of any applicable mixing zone will not exceed the following values:

(i) 7.5 mg/L for nitrate sources other than domestic sewage;

(ii) 5.0 mg/L for domestic sewage effluent discharged from a conventional septic system;

(iii) 7.5 mg/L for domestic sewage effluent discharged from a septic system using level two treatment, as defined in ARM 17.30.702; or

(iv) 7.5 mg/L for domestic sewage effluent discharged from a conventional septic system in areas where the groundwater nitrate level exceeds 5.0 mg/L primarily from sources other than human waste.

For purposes of this subsection (d) , the word "nitrate" means nitrate as nitrogen; and

(e) changes in concentration of total inorganic phosphorus in ground water if water quality protection practices approved by the department have been fully implemented and if an evaluation of the phosphorus adsorptive capacity of the soils in the area of the activity indicates that phosphorus will be removed for a period of 50 years prior to a discharge to any surface waters;

(f) changes in the quality of water for any harmful parameter, including parameters listed in Department Circular DEQ-12, for which water quality standards have been

adopted other than carcinogenic, bioconcentrating, or toxic parameters, in either surface or ground water, if the changes outside of a mixing zone designated by the department are less than 10% of the applicable standard and the existing water quality level is less than 40% of the standard;

(g) changes in the quality of water for any parameter for which there are only narrative water quality standards if the changes will not have a measurable effect on any existing or anticipated use or cause measurable changes in aquatic life or ecological integrity.

See December 2013 Rule Notice at 13-14. Under the proposed rule, since new or increased discharges to surface water containing nitrogen and/or phosphorous would potentially affect the eutrophication of those waters, they would be subject to the eutrophication-based nitrogen and phosphorus standards of DEQ-12A. Therefore, nondegradation review would take place under subsection (f), *supra*, and the requisite 10% and 40% thresholds would be calculated based on the numeric nitrogen and phosphorous standards. This is consistent with the Department's statement of the basic purpose of the rule:

The proposed amendments to ARM 17.30.715 will allow the department to calculate nonsignificant changes in water quality for the base numeric nutrient standards in DEQ-12A. If adopted by the board, base numeric nutrient standards will preclude the need to use the narrative standards at ARM 17.30.637(1)(e) to interpret eutrophication-based water quality impacts from nutrients.

Id. It is likewise consistent with the Department's rationale that "The proposed deletion of "or nutrients," in (1)(c), corresponds with the retaining of toxic-level nitrogen compounds in DEQ-7 and the relocation of eutrophication-based nitrogen and phosphorus standards to DEQ-12A."

In the December 2013 rule notice, however, the Department has proposed replacing the term "or nutrients" in subsection (c) with the almost-synonymous phrase "inorganic nitrogen or phosphorous," effectively re-inserting the phrase "or nutrients" into that paragraph. In addition the Department has added subsequent language to its rationale stating that, in direct contradiction to the above statements, it intends to continue to use *narrative* standards as the basis for nondegradation review:

... the term "or nutrients" in (1)(c) has been replaced with "or total inorganic phosphorus or total inorganic nitrogen," for the specific purpose of providing a nonsignificance threshold for nondegradation review of new dischargers, which are commonly subdivisions. This change allows the department to continue to carry out these reviews in the same manner as currently practiced, because DEQ-7 provides a trigger value for both of these inorganic compounds. ARM 17.30.715(1)(c) also provides: "Whenever the change exceeds the trigger value, the change is not significant if the resulting concentration outside of a mixing zone designated by the department does not exceed 15% of the lowest applicable standard." When these provisions become applicable, the "lowest applicable standard" would be the narrative standard contained in ARM 17.30.637(1)(e). As a result, the part of the nondegradation rules at ARM 17.30.715(1)(g) that relate to the narrative standards would apply.

This understanding of the legal effect of the proposed rule is incorrect. First, even if the rule deletes the term “or nutrients” from subsection (c) and replaces it with the phrase “total inorganic phosphorus or total inorganic nitrogen,” the result will merely be that nutrients are regulated under two separate paragraphs of §715. New or increased discharges of nitrogen and phosphorus would remain subject to the plain language of subsection (f), since they contain “parameters listed in Department Circular DEQ-12, for which water quality standards have been adopted . . .” Regardless of the outcome of review under subsection (c), review would still have to take place under the 10% and 40% thresholds of subsection (f), applying the numeric standards in DEQ-12.

Second, the Department’s contention that under paragraph (c) the narrative standard at ARM 17.30.637(1)(e) would be the “lowest applicable standard” makes no sense. The “lowest applicable standard” for nitrogen and phosphorous would be the numeric standards in DEQ-12. One cannot calculate thresholds of 10% or 40% of a narrative standard. That concept is logically and semantically meaningless.

Third, as already noted, reviewing new or increased discharges under §17.30.637(1)(e) would be directly contrary to the fundamental purpose of the rule, as stated earlier in the same paragraph, to “preclude the need to use the narrative standards at ARM 17.30.637(1)(e) to interpret eutrophication-based water quality impacts from nutrients.”

It has been our consistent understanding throughout this rulemaking process, based on numerous discussions at meetings of the Nutrient Working Group and a series of earlier rule notices, that non-significance determinations for new and increased nutrient discharges under the new rules would be made under ARM 17.30.715(f) rather than under the existing narrative standard. Indeed, we agree with the Department that a fundamental purpose of the proposed rule is to preclude the use of narrative standards and replace them with numeric standards, which can be applied more precisely and consistently, and which reflect the considerable scientific understanding the Department has developed regarding the effects of various concentrations of nitrogen and phosphorous on the state’s surface waters. Our reading of the proposed rule – which the Department has shared in the past – is that review of new and increased discharges would take place under ARM §17.30.715(f), applying the numeric standards contained in Circular DEQ-12. If this is no longer how the Department intends to apply the proposed rule, we will be forced to reconsider our support for the proposed rule package. Such an application would not provide effective protection of state surface waters against degradation from nutrients, which is a primary purpose of adopting numeric nutrient standards. We request that the Department clarify their intent in this regard.

Economic Impact

Finally, we note that while there may be temporary economic impact in some communities as a result of implementing nutrient standards in the short term, we also stand to lose economically in the long term if nutrient standards are NOT adopted. Montana is known nation-wide for clean, beautiful rivers that support healthy fisheries. Our outstanding rivers are an important quality-of-life reason why companies choose to locate in Montana, and they’re a large part of the lure that drew 11 million travelers to

spend \$3.2 billion dollars that supported 43,000 jobs in Montana in 2013. Yet, one of the most frequent questions we're asked from locals and visitors alike is "what causes that slimy green algae in the river and what are you doing about it?" We sincerely hope that this rule package will make that question a thing of the past.

Best regards,



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